

**Claims**

1. A tissue mapping system comprising a set of test electrodes for application to the surface of tissue under investigation and circuit means for measuring an electrical characteristic of the tissue underlying each test electrode.
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2. A system as claimed in claim 1, wherein the set of test electrodes is arranged on a flexible backing of insulating material.
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3. A system as claimed in claim 2, wherein the set of electrodes comprises a two dimensional array of electrodes, preferably a rectangular array.
4. A system as claimed in claim 2 or 3, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to 15 the resistance via the gel between each test electrode and the underlying tissue.
5. A system as claimed in claim 4, wherein the gel is hydrogel.
6. A system as claimed in any one of claims 2 to 5, wherein leads for the test electrodes 20 are also disposed on the flexible backing of insulating material and covered with an insulating material.
7. A system as claimed in any preceding claim, further including means for displaying said measured characteristics and/or derivative(s) thereof in human-readable form.
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8. A system as claimed in any preceding claim, wherein the electrical characteristic is the impedance of the tissue underlying each test electrode.
9. A system as claimed in any preceding claim, wherein the circuit means measures the 30 electrical characteristic by applying an alternating electrical signal between the test electrode and at least one other electrode applied to the organic body of which the tissue forms a part.
10. A system as claimed in claim 9, wherein the circuit means measures the electrical 35 characteristic by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.
11. A system as claimed in claim 10, wherein the reference electrode is also disposed on the flexible backing of insulating material.

12. A system as claimed in claim 11, wherein a single reference electrode is common to a plurality of test electrodes.
- 5 13. A system as claimed in claim 11, wherein during measurement on a given test electrode an adjacent test electrode acts temporarily as its reference electrode.
- 10 14. A system as claimed in any one of claims 9 to 13, wherein the said at least one other electrode is also disposed on the flexible backing of insulating material.
- 15 15. A system as claimed in any one of claims 9 to 14, wherein for each test electrode a measurement is made at a plurality of different frequencies.
16. A system as claimed in any one of claims 9 to 15, wherein the or each measurement is made at a frequency of from 1 milliHz to 100 kHz, preferably from 1 Hz to 50 kHz.
- 15 17. A system as claimed in any preceding claim, wherein the set of test electrodes is incorporated into a wound dressing.
- 20 18. A method of mapping tissue comprising applying a set of test electrodes to the surface of tissue under investigation and measuring an electrical characteristic of the tissue underlying each test electrode.
19. A method as claimed in claim 18, wherein the set of test electrodes is arranged in a two-dimensional array on a flexible backing of insulating material.
- 25 20. A method as claimed in claim 19, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to the resistance via the gel between each test electrode and the underlying tissue.
- 30 21. A method as claimed in any one of claims 18 to 20, further including displaying said measured characteristics and/or derivative(s) thereof in human-readable form.
22. A method as claimed in any one of claims 18 to 21, wherein the electrical characteristic is the impedance of the tissue underlying each test electrode.
- 35 23. A method as claimed in any one of claims 18 to 22, wherein the electrical characteristic is measured by applying an alternating electrical signal between the test electrode and at least one other electrode applied to the organic body of which the tissue forms a part.

24. A method as claimed in claim 23, wherein the electrical characteristic is measured by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.

5 25. A method as claimed in claim 23 or 24, wherein for each test electrode a measurement is made at a plurality of different frequencies.

26. A method as claimed in any one of claims 18 to 25, wherein the set of test electrodes is incorporated into a wound dressing and applied to a wound.

10 27. A wound dressing incorporating a set of test electrodes for application to the surface of wound tissue and circuit means for measuring an electrical characteristic of the tissue underlying each test electrode.